Distr: LIMITED

E/ECA/CMU/36
February 1990

Original: ENGLISH

UNITED NATIONS

ECONOMIC AND SOCIAL COUNCIL

ECONOMIC COMMISSION FOR AFRICA

LC/NAIROBI

REPORT OF THE SEMINAR ON ECONOMIC ASPECTS OF EXPANSION AND MODERNIZATION OF NATIONAL TELECOMMUNICATION NETWORKS FOR ENGLISH-SPEAKING COUNTRIES

NAIROBI (KENYA)
22 JANUARY TO 2 FEBRUARY 1990

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A. Reference of lectures and documentation
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C. Work programme
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E. Project document(*)

* Limited release

1. ORGANIZATION AND FUNDING

The seminar on "Economic Aspects of Expansion and Modernization of National Telecommunication Networks for English-speaking Countries" was held in the Nairobi Inter-continental Hotel from 22 January to 2 February 1990. This seminar was jointly organized by the United Nations Economic Commission for Africa (ECA) and the Federal Republic of Germany (FRG). The German Federal Ministry of Economic Co-operation (BMZ) financed the project. The ECA undertook the preparation and co-ordination including the organization of participation as well as servicing the seminar. The Government of Kenya hosted the meeting, and the local UNDP office as well as the Embassy of the FRG gave administrative and logistic support.

The Federal Ministry of Posts and Telecommunications of the FRG (BMPT) contributed substantially by providing lecturers at its own expense and by co-ordinating the German participation.

The International Telecommunication Union (ITU), the Pan-African Telecommunications Union (PATU), the German Development Bank (KfW) and the ECA presented lectures. The lecturer from DETECON had been contracted by the ECA.

By invitation of the ECA and the sponsoring ministry representatives from international manufacturers of telecommunication and power supply equipment participated in the seminar as observers and by presenting lectures on specific topics.

The Kenya Posts and Telecommunication Corporation (KPTC) provided the protocol, the transport as well as the servicing of the meeting.

2. OBJECTIVES

The seminar had various objectives. Its development objective was the improvement of the planning of telecommunications in Africa, with special emphasis on the economic aspects of the introduction of modern technology in the overall network development.

Among the immediate objectives were the elaboration of the most economic solution between several alternatives concerning the migration from analog to digital technology and the presentation of projects in bankable format.

3. ATTENDANCE AND PARTICIPATION

Twenty-three countries including the host were invited to send one participant each, and three of them to also provide lectures on their experiences of introducing modern technology into their telecommunication networks, all of them benefitting from fellowships granted by the project.

One country did not present a nomination, and four countries could not send their delegates for various reasons. Ethiopia sent an additional

participant at its own expenses.

The following ECA member States were represented: Botswana (1), Cameroon (1), Egypt (1), Ethiopia (2), The Gambia (1), Ghana (1), Kenya (10), Lesotho (1), Malawi (1), Mozambique (1), Nigeria (1), Sierra Leone (1), Sudan (1), Swaziland (1), Tanzania (1), Uganda (1), Zambia (1), Zimbabwe (1).

The following international organizations were represented at the seminar: the International Telecommunication Union (ITU) with one representative each from the Technical Co-operation Department, the Centre for Telecommunications Development and the RASCOM Project respectively, also the Pan-African Telecommunications Union (PATU) and the Economic Commission for Africa (ECA).

The donor country was represented by the Ministry of Posts and Telecommunication (BMPT) and the German Development Bank (KfW).

A total of 62 persons were registered, among those were regular participants, lecturers, observers and members of the secretariat from KPTC and ECA. For easy reference, Annex B to this report includes a complete list.

4. PROGRESS OF WORKS

4.1 Opening of the Seminar

The seminar was opened by the Permanent Secretary of the Ministry of Transport and Communication, Mr. R. Adero, who underlined Kenya's strong wish to successfully expand and modernize its telecommunication network by using digital technology.

The Managing Director of the Kenya Posts and Telecommunications Corporation (KP&TC) Mr. Kipng'eno arap Ng'eny, told participants, that his Corporation is fully aware of the needs for expansion and modernization of the telecommunication networks.

Further speeches were pronounded by Mr. P. Boeing from the Ministry of Economic Co-operation of the FRG (BMZ), the Ambassador of the FRG, Mr. F. von Mentzingen and Mr. T.J. Baxter of ECA.

4.2 Work Programme

The work programme comprised ten working days. In addition to this, all delegates participated in the excursion to KPTC's Gilgil Manufacturing Complex.

In the course of the seminar, three country reports and 22 lectures were delivered by delegates from Ethiopia, Kenya and Zambia as well as by representatives of BMPT, DETECON, ECA, ITU, KfW and PATU on technical aspects and concepts of introduction of modern equipment in telecommunication networks.

Approximately 40 per cent of the work programme was dedicated to the elaboration of the case study. Intentionally, the case study represented the core of all works. The modernization of the Nairobi telephone network and the Nairobi-Mombasa transmission link were choosen as examples for the comparison of several strategies for digitization under economic considerations. The relevant document was conceived in terms of a feasibility study.

During the workshop, the participants were split into three working groups. Each work package was preceded by lectures on the respective subject. At the end of each work package the results were compared in order to set the individual working groups at the same level.

Mr. S.K. Chemai, Head of Domestic Telecommunications Services, was the chairman during the whole seminar.

4.3 Participation of Manufacturers

In order to make planners aware of the features offered by modern telecommunication equipment, some manufacturers were invited to present practical solutions related to the subject of the case study.

4.4 Closing Ceremony

The seminar was declared closed by Mr. S.K. Chemai, Head of Domestic Telecommunications Services of KPTC, who encouraged the participants to maintain the newly established contacts with their colleques from Africa and abroad.

Due to other assignments, the representative of ECA Mr. T.J. Baxter had to leave the seminar two days prior to its conclusion. He indicated that it had been his pleasure working with such high level participants and thanked them for such splendid co-operation and hope that the seminar had achieved its objectives. He further requested the participants not to be overly polite when evaluating the seminar results, but to point out any shortcomings so that services to them can be improved in the future.

During the closing ceremony, the seminar co-ordinator, Mr. J. Kurz, pointed out that many individual efforts had contributed to the great success of the seminar. He particularly praised the Kenyan hospitality which was the basis of the smooth running of the conference.

The representative of the FRG, Mr. J. Leidorf, encouraged the participants, to fully apply the acquired skills once they were back in their home countries. He also mentioned, that follow-up activities on the basis of expert services might be provided by the Ministry of Posts and Telecommunications of the FRG to countries interested therein.

On behalf of the participants, the representative from Nigeria reflected the profound impressions gained by them and expressed a vote of thanks to the organizers and the Government of Kenya for its hospitality.

5. SUMMARY OF LECTURES AND DISCUSSIONS

5.1 Lectures

For the purpose of effectively initializing the exchange of experience, the programme of lectures was opened by three country reports on the introduction of modern technology into the telecommunication networks of Kenya, Zambia and Ethiopia respectively.

During the second day topics relating to digital transmission systems, sector policy and alternative ways of financing telecommunication development were treated by lecturers from BMPT, BMZ and ECA respectively.

Lectures on planning methods, demand forecasting and network dimensioning as well as on digital switching systems were presented during the third day by lecturers from ITU and BMPT respectively. The same day, the representative from KfW highlighted the principles of a sector analysis. The information provided up to that working day enabled the participants, to embark on the first work package (WP) of the case study.

The principles of investment cost estimates were shown in the course of the fourth seminar day by the representative from KfW, whereas the representative from PATU talked about economic development, modernization and planning of telecommunication networks. Subsequently, the participants finalized WP1 and started to elaborate WP2.

The first part of the fifth day was characterized by lectures on principles of financial analysis and the plans for the execution of projects by speakers from BMPT and KfW. Consequently, the participants continued to work on WP2.

In the afternoon, a 1½ day excursion to visit the Gilgil Complex and various telecommunication equipment started. The participants were particularly impressed when making the tour of KPTC's manufacturing complex, where phone sets and switchboards are currently assembled. The complex comprises also important test equipment.

During the sixth seminar day, the delegates had the opportunity to follow and discuss technical solutions suggested by manufacturers. The lecturers satisfactorily complied with ECA's request, to closely refer to the subject of the case study. The lectures provided were referring to aspects of transmission, switching, measuring and photovoltaic power supply.

A lecture by another manufacturer of photovoltaic equipment was presented during the seventh day, followed by a presentation on optical

fibre transmission systems delivered by a represenative from the ITU Centre for Telecommunications Development. The delegates then finalized WP2 and started on WP3.

The eighth day started with lectures on environmental conditions and examples of financial analysis, presented by experts from BMPT. After the finalization of WP3, delegates worked on and also concluded WP4.

On the ninth day, the Director of the ITU RASCOM project made a presentation on the evaluation of the requirements for the RASCOM project. In the course of the day, WP5 was handled and WP6 was started.

During the last day, WP6 was finalized and the whole case study was summarized. Later, the participants were briefed on the results of the evaluation of the seminar (for details please refer to chapter 6).

5.2 Discussions

Nearly all lectures gave incentives for extended and open discussions, during which the delegates highlighted the problems they were encountering in their respective home countries.

One of the main problems mentioned relates to the scarcity of foreign currency. For that reason project implementing agencies have to apply for external financing and, therefore sometimes do not have the choice of suppliers.

There were many discussions also on the conditions imposed by financing agencies, specifically with regard to the ratio of private and business subscribers within a project area.

With regard to digital switching, the high share of costs for software was a repeated issue. Delegates felt, that especially in that domain they were very strongly depending on manufacturers.

Also many questions of purely technical nature were addressed to the experts, such as dimensioning of exchanges, remote switching units, processor capacities and cooling systems.

6. EVALUATION OF SEMINAR BY PARTICIPANTS

During the last seminar day, the delegates were given the opportunity to make a confidential evaluation of all aspects related to the seminar. The first part of the questionnaire comprised 13 subjects which could be evaluated by ticking off a grade either extraordinary (E), satisfactory (S) or unsatisfactory (U).

The results of that exercise are given by percentages in the following table:

		E	S	U
1.	Global concept of the seminar	39	61	0
2.	Quality of lectures	22	78	0
3.	Competence of lecturers	48	50	2
4.	Work programme	13	78	9
5.	Method of working	8.5	83	8.5
6.	Quality of documentation	35	65	0
7	Concept of case study	35	65	0
8	Information provided by manufacturers	9	74	17
9.	Organization	43	57	0
10.	Conference facilities	43	57	0
11.	Accommodation	41	41	18
12.	Excursion	36	59	5
13.	Working atmosphere	57	13	0

In paragraph B of the evaluation form delegates were asked if the seminar achieved what they expected, all answers were affirmative.

Questionned about what were the most relevant subjects (paragraph C) the indications were as follows (number of indications):

Financial analysis	(11)
Case study	(7)
Fibre optic systems	(6)
Sector analysis	(5)
Investment costs	(4)
Concepts for organization and execution of projects	(4)
Demand forecasting	(3)
Digital switching	(3)
Digital transmission	(2)
Solar energy	(2)
Environmental conditions	(1)
Alternative ways of financing	(1)

In addition, four delegates marked that all subjects were relevant.

Part D of the form invited participants to indicate topics to be treated in future seminars. In this case, the indications were very widespread, namely planning of new services (3), traffic engineering (3), maintenance, computer application, tariffs, financial calculations, economic analysis, renewable energies (2 each), also external plants, signalling system No.7, digitization, rural telecommunications, contract negotiations, network dimensioning, investments, management, opticalization, ISDN (1 each).

With regard to the question, if the participation in the seminar would facilitate the delegate's task to prepare projects in bankable format, again all answers were affirmative.

Asked, if the participant would be able to put into practice immediately the experience acquired, only one answer was negative.

This is a selection of the most relevant individual comments:

- The seminar was useful, very good, etc. (7)
- It was too compact, too much information (3)
- More time should be dedicated to case study (3)
- Two weeks duration was sufficient (2)
- Host delegates should also be accommodated in the hotel (2)
- More time would be needed for questions (2)
- Country reports should be presented only in writing (1)
- Duration should be 3 weeks (1)
- The idea of a case study was very good (1)

7. ECA'S COMMENTS AND RECOMMENDATIONS

7.1 Level of Participation

The participants were mostly senior planners but also economists, some of them being executives with a vast experience in telecommunication management. This was demonstrated by the high level of discussions and the elaboration of the case study.

7.2 Duration and Programme

The duration of two weeks for a seminar with a very demanding work programme like the one under consideration seems to be optimal. When some delegates judged, that there was too much information, it was apparently due to the fact that some lecturers did not follow ECA's recommendation, to limit their presentations to 40 minutes which would also have allowed more time for discussions.

7.3 Methods of presentation

The method of presentation by lectures, documentation, and the utilization of an overhead-projector was generally well balanced.

The case study was a very important element and contributed substantially to the seminar's great success.

7.4 Participation of Manufacturers

Since it is generally accepted that planners have to know the products available on the market and producers must be aware of the conditions prevailing in Africa, the participation of manufacturers was very useful. They generally offered technical solutions related to the subject of the case study.

7.5 Documents Distributed

All lecturers and manufacturers arrived with well prepared documents in sufficient number that were handed over to the participants. The case study was presented in a separate folder to facilitate its utilization as working document.

7.6 Analysis of the evaluation made by participants

The very positive evaluation made by the participants (chapter 6) reflects the smooth running of the seminar. Globally, the result of the evaluation was very satisfactory. Many subjects carry a high percentage of "excellent", nine among them 35% or higher.

The best individual result refers to the "working atmosphere", followed by "competence of lecturers", "organization", conference facilities" and "accommodation". All these subjects attracted more than 40% votes for "excellent".

Only six among the 13 subjects attracted some unsatisfactory evaluations, however the rates are quite low ranging from 2 to 18 per cent. The most unfavourable among these relates to accommodation. However, from individual comments it may be concluded, that local participants who were not accommodated within the hotel, were not satisfied with that solution.

All 13 subjects which were evaluated by the participants were important for the seminar's success although some have higher priorities than others. Particularly the case study was highly rated, and taking "satisfactory" and "excellent" together, its concept was successful at 100 per cent. The quality of the case study was also partly reflected in the subjects "global concept", "quality of lecturers", "competence of lecturers" and "quality of documentation", all these points practically did not gather unsatisfactory votes (except 2 per cent in one case).

Taking into account these results as well as the fact that financial matters and the case study were considered by the delegates to be the most relevant subjects, the organizers have fully achieved their goal, namely to provide the skills for making economic comparisons of alternative solutions in conjunction with planning activities.

7.7 Comparison with former Seminars

A systematically compiled evaluation of the seminar in Addis Ababa (1984) is not available.

After the seminar at Lome (1985), participants were invited to evaluate 7 subjects. Those were voted "satisfactory" between 66 per cent and 100 per cent, with excellent votes ranging from 0 per cent to 33 per cent only. However, there was an important share of unsatisfactory results, ranging from 0 per cent to 29 per cent.

At the end of the Harare seminar (1987), each individual subject out of nine had an important share of "excellent", going from 11 per cent to 59 per cent. On the other hand, negative evaluations appeared in only three subjects, having a range from 4 per cent to 7 per cent only.

In connexion with the Yaounde seminar (1988), the number of subjects to be evaluated was increased to 13. The majority of the delegates voted "excellent" for seven among those subjects.

As regards the Nairobi seminar, once again all subjects had a share of "excellent" votes, ranging from 8.5 up to 57 per cent. Taking the summary of "excellent" and "satisfactory" votes related to each individual subject, the result is roughly the same as from the Yaounde seminar, although the "excellent" share is slightly inferior. The evaluation of the concept of the case study has constantly improved, since it had been introduced in Harare.

7.8 Conclusions

In the view of the very positive results it can be concluded that the organizers have taken into account the results from the evaluations obtained from preceding seminars and that the high quality achieved in the past could be maintained.

Apparently, there is a high demand for this kind of seminars which are not purely technical but are aiming at making planners aware of economic considerations.

The following graphics (Figures 1 to 13) show the comparison of the evaluated subjects during the last four seminars.

EVALUATION OF SEMINARS BY PARTICIPANTS

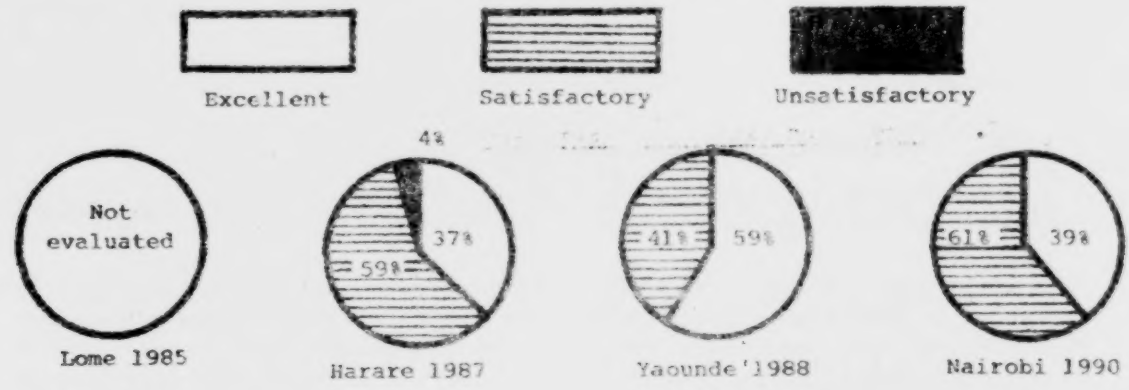

Figure 1: Global concept of seminar

Figure 2: Quality of lectures

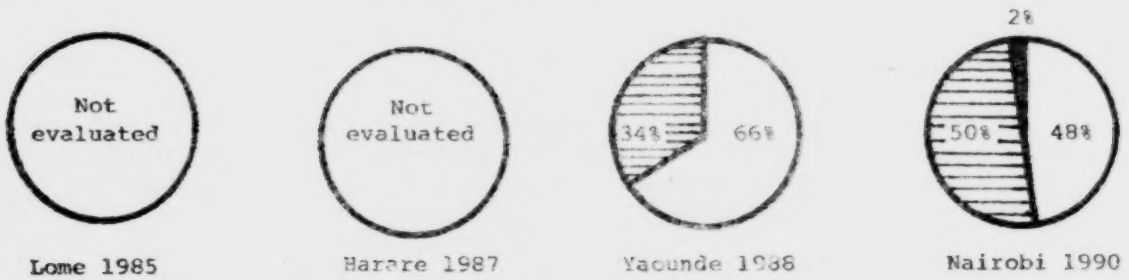

Figure 3: Competence of lecturers

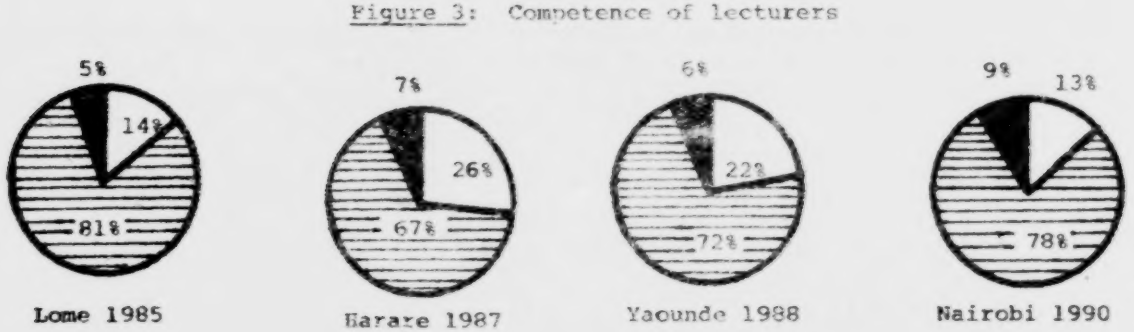

Figure 4: Work programme

EVALUATION OF SEMINARS BY PARTICIPANTS

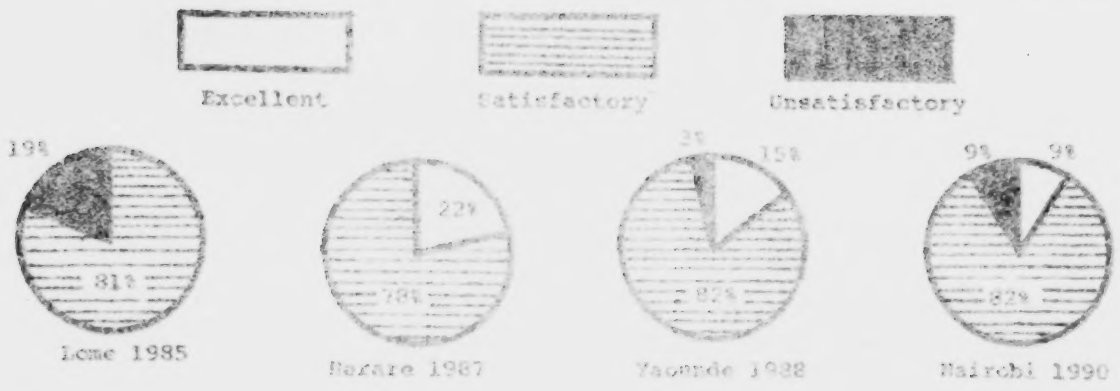

Figure 5: Method of working

Figure 6: Quality of documentation

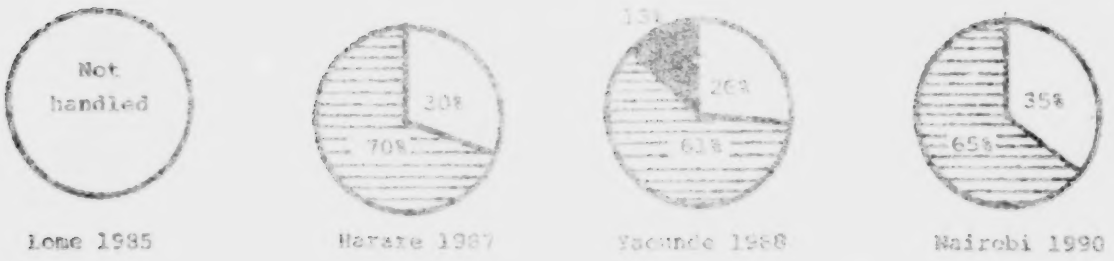

Figure 7: Concept of case study

Figure 8: Information provided by manufacturers

EVALUATION OF SEMINARS BY PARTICIPANTS

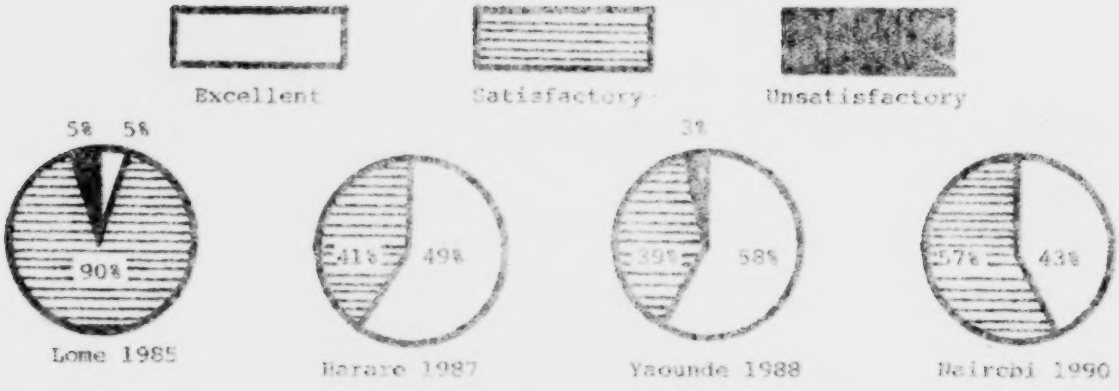

Figure 9: Organization

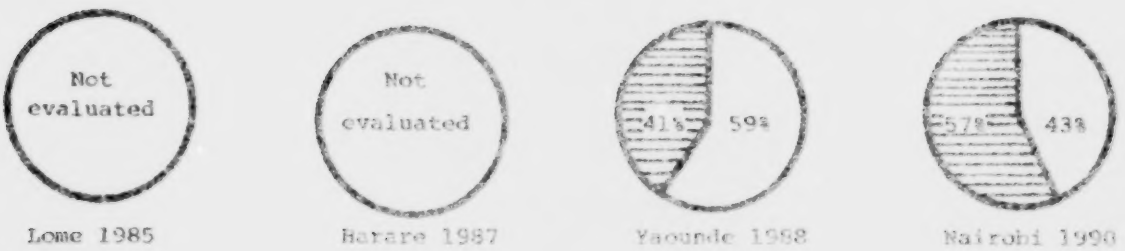

Figure 10: Conference facilities

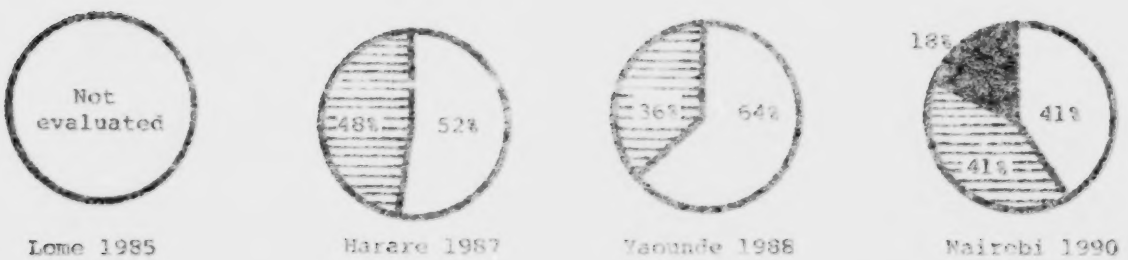

Figure 11: Accommodation

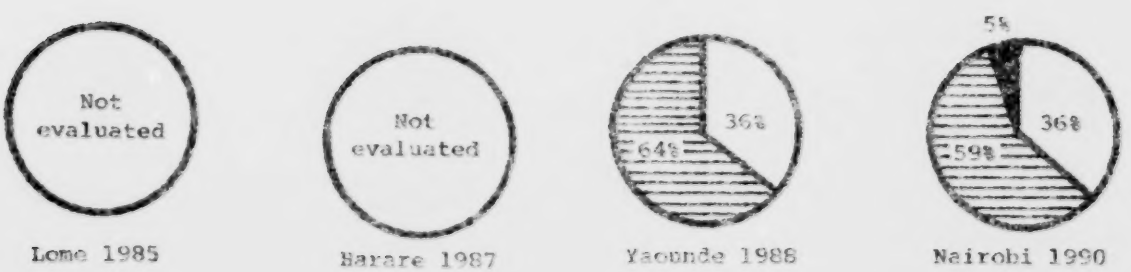

Figure 12: Excursion

Figure 13: Working atmosphere

Lecturers

1.	J. Kurz, ECA	Introduction: objectives and work schedule of seminar
2.	E. A. Majani, Kenya	1. Country report
3.	C.D. Mwanza, Zambia	2. Country report
4.	T. Gurara, Ethiopia	3. Country report
5.	E. Roegner, BMPT	Digital transmission systems
6.	P. Boeing, BMZ	Sector policy
7.	T.J. Baxter, ECA	Alternative ways of financing telecommunication development
8.	A. Heuermann, DETECON	Introduction of case study
9.	L. Engvall, ITU	Planning methods, demand forecasting and network dimensioning
10.	W. Pernau, BMPT	Digital switching systems
11.	F.W. Kraemer, KfW	Principles of sector analysis
12.	A. Heuermann, DETECON H. Friedel, BMPT	Case study, work package 1
13.	F.W. Kraemer, KfW	Investment cost estimates
14.	J.S. Andah, PATU	Economic development and modernization, planning of telecommunication networks
15.	H. Friedel, BMPT	Case study, work package 2
16.	K.H. Stahl, BMPT	Principles of financial analysis
17.	F.W. Kraemer, KfW	Plans for the execution of projects
18.	L. Androuchko, ITU-CTD	Optical fibre transmission systems in network planning
19.	A. Heuermann, DETECON	Case study, work package 3
20.	E.W. Bolay, BMPT	Environmental conditions
21.	K.H. Stahl, BMPT	Examples of financial analysis
22.	K.H. Stahl, BMPT	Case study, work package 4
23.	A.O. Taylor, ITU	Evaluation of requirements for the RASCOM project
24.	A. Heuermann, DETECON K. H. Stahl, BMPT	Case study, work package 5
25.	A. Heuermann, DETECON H. Friedel, BMPT K.H. Stahl, BMPT	Case study, work package 6

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ECONOMIC COMMISSION FOR AFRICA
FEDERAL REPUBLIC OF GERMANY

Seminar on Economic Aspects of Expansion and Modernization of National Telecommunication Networks for English-speaking Countries Nairobi, 22 January to 2 February 1990

Work Programme

Date: Monday, 22 January 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Registration		ECA Secretariat J. Kurz T.J. Baxter
9:20-9:50	Coffee-Break		
9:50-11:00	Opening session		ECA BMZ Kenya
11:00-11:20	Break		
11:20-11:35	Introduction	Objectives and work schedule of seminar	ECA Seminar Co-ordinator J. Kurz
11:35-12:40	1. Country report	Experiences with introduction of modern technology	Kenya S.K. Chemai Presented by E.A. Majani
12:40-14:30	Lunch-break		
14:30-15:50	2. Country report	Experiences with introduction of modern technology	Zambia G.D. Mwanza
15:50-16:10	Coffee-break		
16:10-17:00	Discussion on country reports		

Date: Tuesday, 23 January 1990

Time	Lecture	Main topics	Lecturer from
8:00- 9:20	3. Country report Discussion	Experiences with introduction of modern technology	Ethiopia Tadelle Gurara
9:20- 9:40	Coffee-break		
9:40- 11:00	Digital transmission systems	PCM, hierarchy of digital systems, characteristics, transmission plan, costs, problems	DBP1/ E. Roegner
11:00- 11:20	Break		
11:20- 12:40	Sector Policy	Principles of the development co-operation by the FRG in the telecommunications sector	BMZ2/ P. Boeing
12:40- 14:30	Lunch-break		
14:30- 15:50	Alternative ways of financing telecommunication development		ECA T.J. Baxter
15:50- 16:10	Coffee-break		
16:10- 17:00	Introduction of case study	Objectives and work schedule; organisation; grouping	DETECON A. Heuermann

1/ DBP - PTT of the FRG
2/ BMZ - Ministry of Economic Co-operation of the FRG

Date: Wednesday, 24 January 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Planning methods, demand forecasting and network dimensioning	Acquisition of data, forecasting methods, demand for new services	ITU (TCD) L. Engvall
9:20-9:40	Coffee-break		
9:40-11:00	Digital switching systems		DBP1/ W. Pernau
11:00-11:20	Break		
11:20-12:40	Principles of sector analysis	Analysis of problems and objectives, analysis of demand and existing capacities, needs for additional capacities	KfW2/ F.W. Kraemer
12:50-14:30	Lunch-break		
14:30-15:50	Case study	WP1	Friedel
15:50-16:10	Coffee-break		
16:10-17:00	Case study (ctd)	WP1	Friedel

1/ PTT of the FRG
2/ Development Bank of the FRG

Date: Thursday, 25 January 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Conception and execution of network expansions	Investment cost estimates	KfW F.W. Kraemer
9:20-9:40	Coffee-break		
9:40-11:00	Economic development and modernization, planning of telecommunications networks		PATU John S. Andah
11:00-11:20	Break		
11:20-12:40	Case study		
12:40-14:30	Lunch-break		
14:30-15:50	Case study	WP1	Heuermann
15:50-16:10	Coffee-break		
16:10-17:00	Case study (ctd)	WP2	Friedel

Date: Friday, 26 January 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Principles of financial analysis	Tarification, profitability, dynamic investment calculation (IRR, present value, cost coverage)	DBP K.H. Stahl
9:20-9:40	Coffee-break		
9:40-11:00	Case study	WP2	Friedel
11:00-11:20	Break		
11:20-12:30	Conception and execution of network expansions	Plans for the execution of projects	KfW F.W. Kraemer
13:00	Departure for excursion to Gilgil, Kericho and Kisumu		

Date: Monday 29 January 1990

PRACTICAL SOLUTIONS PROPOSED BY MANUFACTURERS

Time	Lecture	Main topics	Lecturer from
8:00-9:00	Digital Microwave system Applications in Long-Distance and Local Network	Transmission	ANT/BURMANN
9:00-10:00	Modernization of the National Network with Digital Exchanges	Switching	Telenorma/Bock
10:00-10:30	Coffee-break		
10:30-11:30	Extracts about Measuring Methods for Improving The Reliability of Digital Transmission Equipment	Measuring	Wandel & Goltermann/ Reiners
11:30-12:30	Introduction of Digital switching in the Nairobi Network	Switching	SEL Alcatel/Moller
12:30-14:30	Lunch-break		
14:30-15:30	The Ring Architecture - a Transport system to Achieve a Digital Synchronous Hierarchy in Metropolitan Networks	Transmission	Siemens/Mazzei
15:30-16:00	Coffee-break		
16:00 17:00	Photovoltaic Power supply for remote telecom stations	Power supply	Siemens Solar/ Westhoff

Date: Tuesday, 30 January 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Practical solutions proposed by manufacturers		B.P. Solar C. Kiremu Magambo
9:20-9:40	Coffee-break		
9:40-11:00	Optical fibre transmission systems in network planning	Optical cables, submarine cables, integrated opto electronics, aspects of viability, maintenance	ITU (CTD) L. Androuchko
11:00-11:20	Break		
11:20-12:50	Case study (ctd)	WP 2	Friedel
12:50-14:30	Lunch break		
14:30-15:50	Case study (ctd)	WP 2	Friedel
15:50-16:10	Coffee-break		
16:10-17:00	Case study (ctd)	WP 2	Friedel
17:00-18:00	Case study (ctd)	WP 3	Heuermann

Date: Wednesday, 31 January 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Environmental conditions	Active and passive cooling systems; buildings, power supply	DBP Bolay
9:20-9:40	Coffee-break		
9:40-11:00	Financial analysis	Examples of financial analysis	DBP K.H. Stahl
11:00-11:20	Break		
11:20-12:40	Case study	WP3	Neuermann
12:40-14:30	Lunch-break		
14:30-15:50	Case study	WP4	Stahl
15:50-16:10	Coffee-break		
16:10-17:00	Case study (ctd)	WP4	Stahl

Date: Thursday, 1 February 1990

Time	Lecture	Main topics	Lecturer from
8:00-9:20	Evaluation of requirements for the RASCOM project		ITU (RASCOM) A. O. Taylor
9:20-9:40	Coffee-break		
9:40-11:00	Case study	WP5	Stahl
11:00-11:20	Break		
11:20-12:40	Case study	WP5	Heuermann
12:40-14:30	Lunch-break		
14:30-15:50	Case study	WP6	Friedel
15:50-16:10	Coffee-break		
16:10-17:00	Case study (ctd)	WP6	Stahl

Date: Friday, 2 February 1990

Time	Lecture	Main topics	Lecturer from
8:00- 9:20	Case study	WP 6 and presentation	Stahl Dr. Heuermann
9:20- 9:40	Coffee-break		
9:40- 11:00		Final discussions on case study and evaluation of seminar	J. Kurz Tutors
11:00- 11:30	Break		
11:30- 12:00	Closing Ceremony		ECA BMZ/BMPT1/ Kenya

1/ BMPT : Ministry of Posts and Telecommunications of the FRG

UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA

E/ECA/CM0/36
Annex II

FEDERAL REPUBLIC OF GERMANY
Seminar on Economic Aspects of Expansion and
Modernization of National Telecommunication Networks

Postal corporation set to go digital — PS

THE STANDARD, Tuesday, January 23, 1990

KENYA Posts and Telecommunications Corporation plans to instal 26 large capacity digital exchanges in major urban areas by 1992 in its national digitalisation project intended to improve the level of network utility and operation in areas of high demand.

The creation of architecture which can mix and match systems and equipment will further enable the country to provide advanced services such as data communications and create opportunities for others like mobile telephones, paging services and digital radio network.

Speaking at the official opening of a planning seminar on economic aspects of expansion and modernisation of the national telecommunications network for English speaking countries at a Nairobi hotel yesterday, the Permanent Secretary in the Ministry of Transport and Communications, Mr R. Adero, said the fact that a majority of the Kenyan population lived in scattered rural areas had led to the conclusion that small capacity digital exchanges provided the answer to the successful expansion and modernisation of the rural network.

More phones planned

By Standard Reporter

THE Kenya Posts and Telecommunications Corporation (KP&TC) aimed at installing 500,000 telephone lines in the country by the end of the year, and raise the total number of lines to 1.5 million by the end of the decade, the Managing Director of the Corporation, Mr Kipog'eno arap Ng'eny, has said. He said this was part of a major expansion programme for telephone networks in the country and estimated that the expansion would bring about a ratio of five telephone lines to every 100 people.

Admitting that the plan seemed ambitious, Mr Ng'eny assured participants of a two-week seminar on "economic aspects of expansion and modernisation of national telecommunication networks" yesterday that the programme was already underway.

In his opening statement, Mr Thomas Baxter, who was representing the executive secretary of the Economic Commission for Africa (ECA), Prof Adebayo Adedeji, said the seminar was the fifth in a series dating back to 1984.

SUNDAY NATION, JANUARY 27, 1990

KP&TC to export cable 'phones

The Kenya Posts and Telecommunications Corporation has a contract to export Kenyan cable phones worth Sh60 million in foreign currency to American Telephone and Telegraph.

This was disclosed on Friday by the Gilgil complex personnel and administration manager, Mr J. A. Chebii, when he addressed delegates from English speaking countries who are attending a telecommunications management seminar in Kenya. The delegates were touring the Gilgil complex.

Mr Chebii said that although the complex was only a year old, it was producing 200 telephones a day. He added that the targetted production would be 400 telephones per day when the complex would be operating at full capacity.

The manager told the delegates that five types of switchboards are currently assembled in Gilgil and added that the complex expected to produce about 300 switchboards annually.

The delegates are attending a two-week seminar on the economic aspects of expansion of the telecommunications network in Eastern and Southern Africa.

The seminar was opened on Monday by the Permanent Secretary in the Ministry of Transport and Communications, Mr R. Adero.

The Federal Republic of Germany is funding the seminar through the European Economic Community (EEC).

— KNA

UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA

FEDERAL REPUBLIC OF GERMANY

Seminar on Economic Aspects of Expansion and
Modernization of National Telecommunication Networks

DELEGATES attending a two-week seminar on economic aspects of expansion and modernisation of national telecommunications network, being shown how an electro-caustic test equipment operates by the Assistant Production Manager Mr Alex Maina (third right) at K.P. & T.C. Gilgil Complex on Friday.

SUNDAY STANDARD NAIROBI 28.01.90

Gilgil complex praised

AFRICAN countries can only become self-sufficient in telecommunications requirements if they venture into manufacturing of suitable and cost-effective components, a representative of the Economic Commission for Africa, Mr Tom Baxter, has said.

Mr Baxter praised the Kenya Posts and Telecommunications Corporation's Gilgil manufacturing complex, saying telecommunications equipment manufactured there was of the "highest quality" and held the key to Africa's efforts to cut down costs on imported equipment.

Mr Baxter made the remarks recently during a tour of the complex by over 40 telecommunications managers attending an on-going telecommunications seminar in Nairobi under the auspices of the Economic Commission for Africa.

Similar sentiments were expressed by a telecommunications training expert from the Pan African Telecommunications Union (PATU), Mr John Andah.

The Standard

29.01.90